

Patent Claims

1. An apparatus (10) for preparing, performing and evaluating a non-destructive inspection, said apparatus having one or more discretionary suitable test instruments (20) and comprising:
 - a) an input device (12),
 - b) an output device (14),
 - c) a data store,
 - d) a data processing unit (16),
 - e) an interface for connecting a respective one of the test instruments (20) through which data are adapted to be transmitted in both directions,
 - f) a standardized data processing program for
 - defining a test object (26) by data input or selecting it from the data store,
 - determining various test regions (28) of a test object (26),
 - selecting at least one determined test instrument (20) from a group of test instruments (20) and associating it with a respective one of the test regions, with all relevant properties of the test instrument (20) being stored in the data store,
 - carrying out test-relevant settings for the selected instrument,
 - selecting the kind of visualization and evaluation of measured test values,
 - archiving and storing test results obtained,
 - establishing a test scheme, with all the predetermined settings being transferred to the respective test instrument (20) upon connection thereof so that it is preset for inspection.
2. The apparatus (10) as set forth in claim 1, characterized in that additional instruments are selectable through the standardized data processing program and may be associated.

3. The apparatus (10) as set forth in claim 1 or claim 2, characterized in that all the selectable data are represented by standardized plugins (36) that may be combined together by virtue of a standardized interface.
4. The apparatus (10) as set forth in claim 3, characterized in that the possibility of combining the plugins, or rather the modular structure, is given by a "Common Application Architecture" (CAA) which is based on a "Universal Application Framework" (UAF).
5. The apparatus (10) as set forth in claim 1 or 4, characterized in that visualization and evaluation of the test values obtained may occur both online and offline.
6. The apparatus (10) as set forth in claim 5, characterized in that a user interface (32), which is configured in the fashion of a Windows interface and in which the test scheme may be established, based on the plugins (36), is disposed on the output device (14).
7. The apparatus (10) as set forth in claim 6, characterized in that the plugins (36) are selectable with the help of a moving function and may be associated.
8. The apparatus (10) as set forth in any one of the claims 1 through 7, characterized in that the test instruments (20) are implemented to be ultrasonic test instruments.
9. A method for carrying out a non-destructive inspection with the help of an apparatus (10) as set forth in any one of the claims 1 through 8, characterized by the method steps:
 1. inputting or selecting the relevant data of a test object (26),
 2. determining test regions (28),
 3. selecting test instruments (20) or probes (24) suited for the test regions (28),

4. selecting the manner of visualizing and evaluating measured test values,
 5. selecting the manner of storing and archiving the test results.
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10. The method as set forth in claim 9, characterized in that an inspection scheme can be established in which the order in which the respective test instruments (20) or probes (24) are used for inspection can be fixed.
 11. The method as set forth in claim 9 or 10, characterized in that further additional instruments are selected.